

## Abstract

Benjamin Støttrup (Aalborg University)

### *Magnetic pseudodifferential operators represented as generalized Hofstadter-like matrices*

*Joint with Horia D. Cornean, Henrik Garde and Kasper S. Sørensen*

First, we reconsider the magnetic pseudodifferential calculus and show that for a large class of non-decaying symbols, their corresponding magnetic pseudodifferential operators can be represented, up to a global gauge transform, as generalized Hofstadter-like, bounded matrices. As a by-product, we prove a Calderón–Vaillancourt type result. Second, we make use of this matrix representation and prove sharp results on the spectrum location when the magnetic field strength  $b$  varies. Namely, when the operators are self-adjoint, we show that their spectrum (as a set) is at least  $1/2$ -Hölder continuous with respect to  $b$  in the Hausdorff distance.